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(FILE 'HOME' ENTERED AT 07:28:39 ON 03 DEC 2002)
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L1 3424 S (INCREMENT? OR STANDARD OR MULTIPLE OR SEVERAL OR PLURAL?)(3A)(ADDITION OR INJECTION OR SUBTRACTION)(3A)(METHOD OR PROCEDURE OR PROCESS)
L2 372 S L1 (L)(APPROACH? OR MODIFICAT? OR VARIA?)
L3 12 S (INCREMENT? OR STANDARD OR MULTIPLE OR SEVERAL OR PLURAL?)(3A) SUBTRACTION(3A)(METHOD OR PROCEDURE OR PROCESS)AND L4
L4 37 S (INCREMENT? OR MULTIPLE OR SEVERAL OR PLURAL?)(3A)(ADDITION OR INJECTION OR SUBTRACTION)(3A)(METHOD OR PROCEDURE OR PROCESS)AND L4
L5 57 S L1/TI,IT,ST AND L2
L6 100 S L3-5
L7 78 S L6 NOT PY>1998
L8 5 S L6 NOT L7 AND PATENT/DT

=> d l7 bib,ab 1-78

L7 ANSWER 13 OF 78 CA COPYRIGHT 2002 ACS
AN 124:75180 CA
TI H-Point **standard additions method** for resolution of binary mixtures with simultaneous addition of both analytes
AU Campins-Falco, P.; Verdu-Andres, J.; Bosch-Reig, F.
CS Departament de Quimica Analitica, Facultat de Quimica, Universitat de Valencia, c/Dr. Moliner 50, E46100-Burjassot (Valencia), Spain
SO Analytica Chimica Acta (1995), 315(3), 267-78
AB The basis of the H-point **std. addns. method** (HPSAM) with simultaneous addn. of both analytes is proposed for the resoln. of binary mixts. It is a **modification** of the previously described H-point **std. addns. method** that permits the resoln. of both species from a unique calibration set by making the simultaneous addn. of the two analytes. The method uses as anal. signals the absorbances at pairs of wavelengths where each species shows the same absorbance. The required data to apply the method are the absorbance values at the previously selected wavelengths for the sample alone and spiked with both species at known concns. Linear relations between absorbance values and added concn. of analyte are found, and the intersection of the lines at the previously selected wavelengths permits to obtain the analyte concn. in the sample. Wavelength pairs can be selected to obtain the most precise results. The effect of the relation of the concns. of the two species in the std. and in the sample was studied. Some mixts. of phenol and o-cresol, species highly overlapped (absorption maxima: for phenol at 234.6 and 287.0 nm; for o-cresol at 236.6 and 288.4 nm) and with similar absorptivities were tested. If the matrix effect is known to be absent, the method can be employed with absorptivity coeffs. of the pure compds. as the color reagent and the results are satisfactory.

L7 ANSWER 33 OF 78 CA COPYRIGHT 2002 ACS
AN 116:75386 CA
TI Nonlinear **variant** of the **standard addition method** for luminescence determination of polyarenes
AU Dvorkin, P. L.; Vershinin, V. I.; Chirkova, E. A.
CS Omsk State Univ., Omsk, USSR
SO Zhurnal Analiticheskoi Khimii (1991), 46(10), 1947-53
AB The reliability of the linear variant was evaluated and a nonlinear variant was proposed and realized by using a personal computer. The systematic error of the method was eliminated in the nonlinear variant but it required high reproducibility of the initial data and ≥4 addns. The linear variant

is preferred when the calibration graph curvature is insignificant.

L7 ***ANSWER 41 OF 78*** CA COPYRIGHT 2002 ACS
AN 112:209884 CA
TI Evaluation of the simplified generalized **standard additions method** for calibration in the direct analysis of solid samples by graphite furnace atomic spectrometric techniques
AU Baxter, Douglas C.
CS Dep. Anal. Chem., Univ. Umea, Umea, S-901 87, Swed.
SO Journal of Analytical Atomic Spectrometry (1989), 4(5), 415-21
AB In combining the principles of exptl. design and the simplified **approach** to the generalized **std. addns. method**, a useful calibration strategy was obtained for the single-component anal. of solid samples. By varying both the solid sample mass and the amt. of analyte added, the obsd. response is defined by these 2 **variables** and may be geometrically described as a surface in 3-dimensional space. The use of multiple regression techniques then allows the analyte concn. in the solid to be computed from the response plane. Simultaneous blank correction and quantification was also performed. The importance of a well designed exptl. lay-out and the effects of random errors or noise on the accuracy of the procedure were investigated, and some anal. results are given. The approxn. of the analyte concn. obtained is fairly insensitive to curvature in the calibration function, but tends to be biased high in the presence of intense noise. This latter is a major limitation given the inhomogeneity of most solid samples which leads to irreproducible or noisy results.

L7 ANSWER 46 OF 78 CA COPYRIGHT 2002 ACS
AN 109:85187 CA
TI H-point **standard addition method**. Part 1. Fundamentals and application to analytical spectroscopy
AU Reig, Francisco Bosch; Falco, Pilaz Campins
CS Fac. Quim., Univ. Valencia, Burjasot, Spain
SO Analyst (Cambridge, United Kingdom) (1988), 113(7), 1011-16
AB A **modification** of the **std. addn. method** called the "H-point **std. addn. method**" is proposed in order to obtain an unbiased analyte concn. when both analyte and interferences are present in a sample. It also permits the detn. of an interference known to be present. The method uses the anal. signal data at two selected wavelengths, giving two straight lines that have a common point with coordinates H (-CH,AH), where -CH is the unknown analyte concn. and AH the anal. signal due to an interference. Examples of the application of the proposed method are given.

L7 ***ANSWER 63 OF 78*** CA COPYRIGHT 2002 ACS
AN 94:14542 CA
TI A systematic **approach** to **standard addition methods** in instrumental analysis
AU Bader, Morris
CS Moravian Coll., Bethlehem, PA, 18018, USA
SO Journal of Chemical Education (1980), 57(10), 703-6
AB **Std. addn. procedures** in instrumental anal. are described, and **variations** possible with linear and nonlinear instruments are listed. **Variations** for linear instruments include continuous **variation** of std. at const. total vol., of unknown at const. total vol., of both unknown and std. at const. total vol., **variable** vol. single addn. of std., and **variable** total vol. with continuous **variation** of std. An example of a nonlinear response and examples of radiochem. techniques are also presented.

QPL 78

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FILE 'CA' ENTERED AT 09:34:36 ON 03 DEC 2002
L1 1 S SAXBERG BO?/AU AND GENERALIZED/TI
L2 25618 S (TWO OR 2 OR PLURAL?)(1A)(VARIABLE OR PARAMETER)
L3 7 S (INCREMENT? OR STANDARD OR MULTIPLE OR SEVERAL OR PLURAL?)(3A)(ADDITION OR INJECTION OR SUBTRACTION)(3A)(METHOD OR PROCEDURE OR PROCESS) AND L2
L4 8 S L1,L3

=> d bib,ab 1-8

L4 ANSWER 6 OF 8 CA COPYRIGHT 2002 ACS
AN 107:69864 CA
TI A simplified approach to the generalized **standard addition method** and its application in electrothermal atomic absorption spectrometry
AU Piepponen, Sulo; Alanko, Timo; Minkkinen, Pentti
CS Food Res. Lab., Tech. Res. Cent. Finland, Espoo, SF-02150, Finland
SO Analytica Chimica Acta (1986), 191, 495-504
AB A simple and general **std.-addn. method** for a single-component detn. is presented. The method uses **2** independent **variables** for the calcn. of the analyte concn. (the amt. of sample taken and the amt. of analyte added) and 1 dependent variable, the response. The sensitivity and the response of the blank can also be estd. from the model by changing the amt. of the sample and the amt. of the analyte addn. In the simplest case, a linear equation is assumed to exist between the variables. Geometrically, the model can be expressed by the response plane in the variable-space. The method has all the advantages of the ordinary **std.-addn. method** but also includes automatic blank elimination and versatile matrix-interference control. Two examples of the use of the method are based on graphite-furnace at. absorption spectrometry of Cr and Pb. Std. statistical packages are applied.

L4 ANSWER 8 OF 8 CA COPYRIGHT 2002 ACS
AN 90:214534 CA
TI **Generalized** standard addition method
AU **Saxberg, Bo E. H.**; Kowalski, B. R.
CS Dep. Chem., Univ. Washington, Seattle, Wash., USA
SO Anal. Chem. (1979), 51(7), 1031-8
AB The normal std. addn. method assumes that for any 1 analyte in a sample there is an anal. sensor which responds to that analyte and no other component in the sample. When the anal. sensor is not completely selective, so-called interference effects result which can be a major source of error. The generalized std. addn. method (GSAM) provides a means of detecting interference effects, quantifying the magnitude of the interferences, and simultaneously detg. analyte concns. The GSAM as presented here uses multiple linear regression to analyze multicomponent samples where the response-analyte concn. relation is of some arbitrary polynomial form; for a nonlinear polynomial relation, an iterative soln. is required.

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